

Fall 2019

IS 218-101: Building Web Applications

Bryan Nissen

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Recommended Citation

Nissen, Bryan, "IS 218-101: Building Web Applications" (2019). *Informatics Syllabi*. 67.
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Course Number: IS218

Course Title: Building Web Applications

Section: 101

Semester: Fall 2019

Date & Time: W 6:00PM – 9:05PM

Location: 2400 GITC

Credits: 3

Contact Hours: 3 Hours Face-to-Face

Instructor Information:

Name: Bryan Nissen

Office: 3100 GITC

Email (preferred): bcn3@njit.edu

Slack Handle: bryannissen

Office Hours:

Wednesday: 4:00PM – 6:00PM

Through Slack Anytime

On Campus at another time by appointment

Course Materials (Not required but helpful)

Murach, Joel, and Associates. *Murach's PHP and MySQL 2nd Edition*. Fresno, Calif.: Mike Murach & Associates, 2014. Print. ISBN: 978-1890774790

Catalog Description

This course provides a critical, hands-on introduction to the design of Web-based Information Systems. We will explore and discuss emerging trends, capabilities, and limitations of web technologies used to capture, store, access, and disseminate information for both businesses and online communities. Students, working in groups, will design and develop different types of web applications, which will then be analyzed and critiqued by the students as to their usability in actual public and private settings. Students will use an open-source web content management system throughout the course.

Prerequisites: CS 113 or CS 115 or other computing GUR

Learning Outcomes

1. Students will be able to create an application using PHP and MySQL.
2. Students will be able to design and implement a user registration and management process for a web application.
3. Students will be able to demonstrate fundamental concepts in web application development such as Model View Control (MVC).
4. Students will be able to demonstrate the ability to collaborate using source code management software.
5. Students will be able to describe and implement basic design patterns found in PHP such as a singleton and factory pattern.
6. Students will be able to demonstrate asynchronous client server communication using JavaScript and PHP.
7. Students will be able to use SQL create, retrieve, update, and delete (CRUD) queries.

Grading Category Weights

Project #1: 20%
Project #2: 20%
Project #3: 20%
Project #4: 30%
Participation: 10% (each = 0.66%)

Grading Scale

A: 90 - 100
B+: 88-89
B: 80 - 87
C+: 78-79
C: 70 - 77
D+: 68 - 69
D: 60 - 67
F: 0 - 59

Incompletes are only given for extenuating and documented medical or personal issues.

Homework Assignments

Homework will be assigned most weeks but not count towards your grade. Videos will be provided walking through how to complete each assignment, and they can be submitted for feedback from me. However, they are just there to help you get a better understanding of the course material and are entirely optional. Your grade comes entirely from the four projects.

Late Grading policy

No free late days for projects. 10% off from full credits per day late. (e.g. if you were late for one day, the instructor would start grading your work at 90%).

Attendance

Attendance will be taken for each class meeting. Attendance is worth 10% of your final grade. Students who miss 5 or more than 5 will receive a 'F'.

Academic Integrity Policy

My expectation is that each person will complete original work for this course and will not copy from fellow students or tutorials online. It is OK to refer to tutorials online; however, you will be considered in violation of the NJIT honor code by submitting work found online. Any violations of the honor code will be referred to the Dean of Students for investigation and possible disciplinary action. For more information about the NJIT honor code, you should refer to this document:

<http://www.njit.edu/academics/pdf/academic-integrity-code.pdf>

TENTATIVE CLASS SCHEDULE

Below are the TOPICS covered in the course.

| Week Meetings | Topics | Assignments |
|---------------|--|--|
| 1 | Introduction of tools we use in this course: <ul style="list-style-type: none">• Setup Code Editor and FTP Plugin;• A brief intro to AFS and command line;• A brief intro to Git and GitHub. | <i>Git commands, basic AFS commands and Sublime practice</i> |
| 2 | Introduction to PHP basic 1: <ul style="list-style-type: none">• Basic syntax; | |

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|----|---|---|
| | <ul style="list-style-type: none"> • Variable types; • Constant types. | |
| 3 | Introduction to PHP basic 2: <ul style="list-style-type: none"> • String; • Number; • Array. | |
| 4 | Introduction to PHP basic 3: <ul style="list-style-type: none"> • Comparison & Logical operators; • Conditional expressions; • Control statements. | <i>PHP basic practice</i> |
| 5 | Form Handling | <i>Project #1 Assigned</i> |
| 6 | Basic intro to MySQL: <ul style="list-style-type: none"> • Workbench; • SQL statements. | <i>SQL query practice</i> |
| 7 | MySQL and PHP: <ul style="list-style-type: none"> • PDO connection; • Exceptions handling. | <i>Project #1 Due Project #2 Assigned</i> |
| 8 | <ul style="list-style-type: none"> • HTML and CSS review, • Bootstrap. | |
| 9 | MVC | <i>Project #2 Due MVC Practice</i> |
| 10 | Demo MVC example | <i>Project #3 Assigned</i> |
| 11 | Functions and Class: <ul style="list-style-type: none"> • How to define a functions; • Functions arguments and returning values; • How to define a class; • Member visibility; • Inheritance. | <i>Functions and Class Practice</i> |
| 12 | Thanksgiving Recess | |

| | | |
|----|---|---|
| 13 | Introduction to PHP basic 4: <ul style="list-style-type: none"> • Cookies; • Sessions; • Date; • Time. Project (Discussion) | <i>Project #3 Due</i> <i>Project #4 Assigned</i> |
| 14 | Regular expression | |
| 15 | Open questions and Extra Help | |
| 16 | Project Due | <i>Project #4 Due</i> |